Boardmonitor/Controlunit 22 SY 401/23B



22 SY 401/23B

22 SY 401/23F

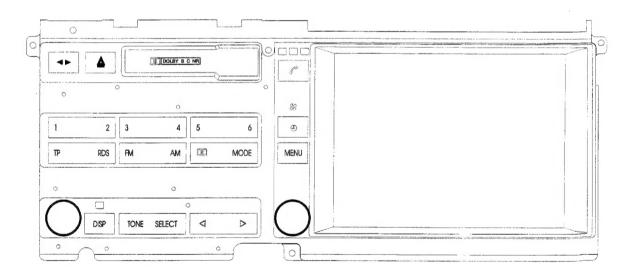
22 SY 401/23L

22 SY 401/23R

22 SY 401/23T

Service Manual

12 V ⊝—|







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GENERAL

The Bordmonitor - Control unit 22SY401 is part of the BMW System and does not work standalone. To run this modul you have to build up a system with:

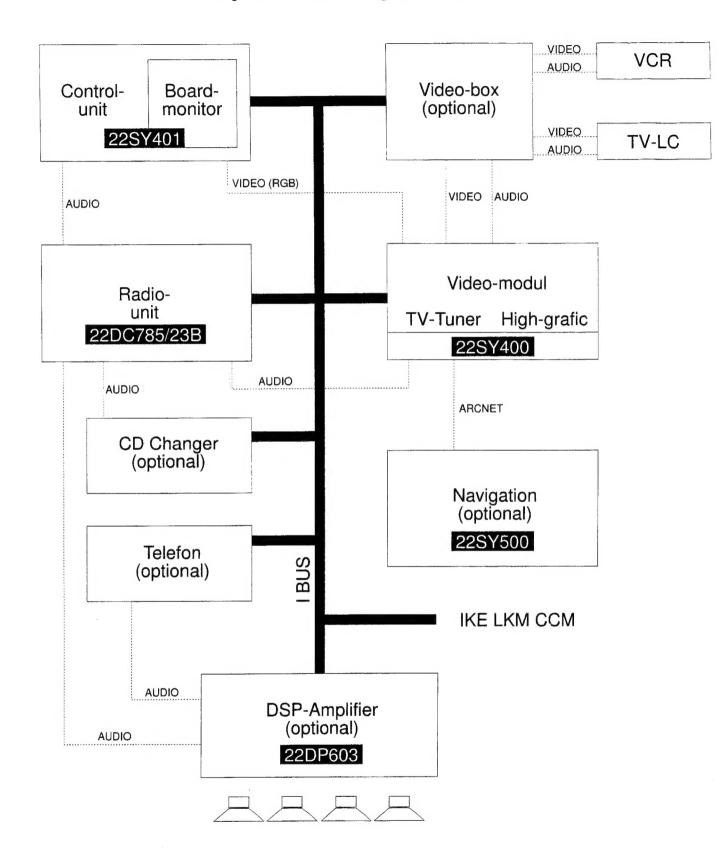
- radiomodul for audio functions only
- radiomodul and videomodul for audio and display functions
- all modules for full operation
- RS 232 I Bus interface, PC and communication software to simulate functions

TECHNICAL DATA

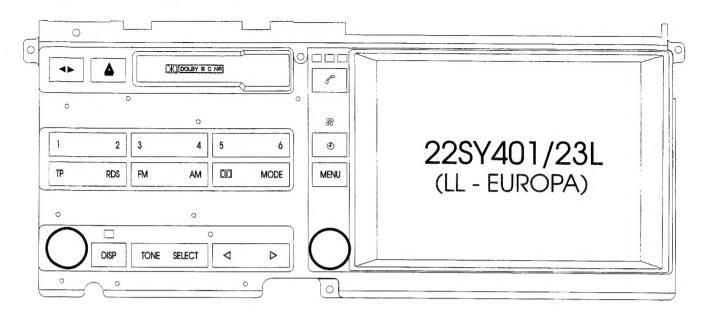
| GENERAL | Power supply: Quiescent current: Playback current: | 6 V - 20 V 100 μA 1 A (max) |
|---------------|--|--|
| CASSETTE DECK | Number of tracks: Tape speed: Winding time (C60): Frequency response: Wow and flutter: S/N ratio (Dolby off): Noise reduction: | 2 x 2 4,75 cm/s < 120 s 40 - 14.000 Hz 0,2% (IEC 386 / DIN 45507) FE: 48 dB (weighted) CR: 53 dB (weighted) 8,5 dB (Dolby B) 17 dB (Dolby C) |
| AF AMPLIFIER | Output level: | 3 Veff |

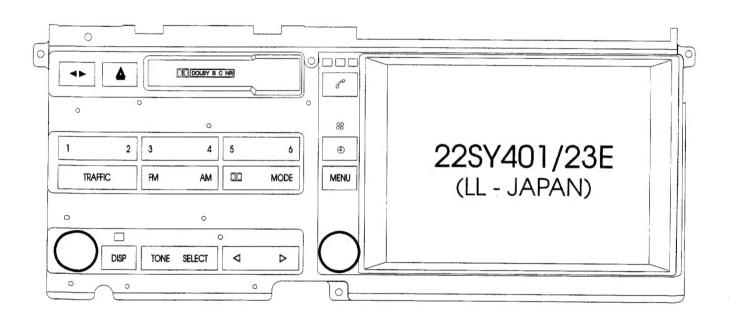
Channel separation (1 KHz): 45 dB

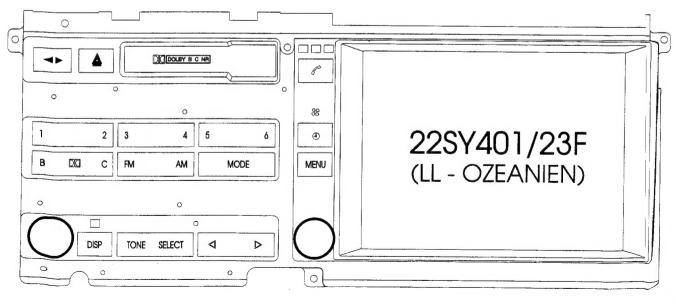
Boardmonitor - Control unit Systemconfiguration



VERSIONS FOR LEFT HAND STEERING

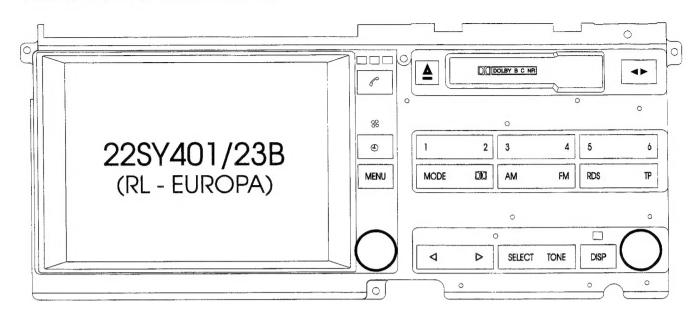


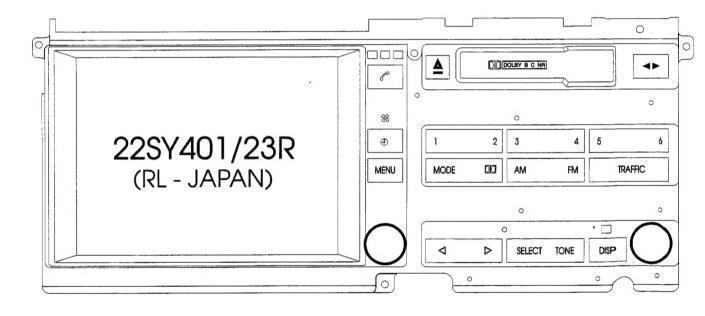


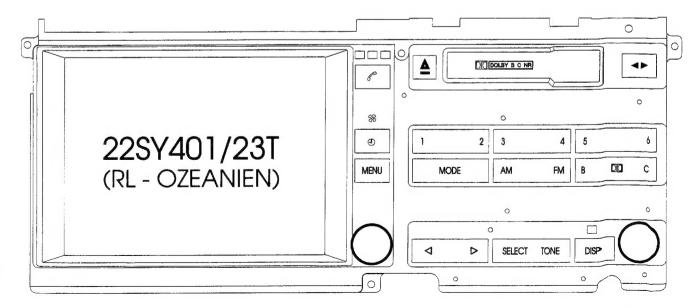


PCS 79 865

VERSIONS FOR RIGHT HAND STEERING







CONTROLS

send/end telephone

green LED:

in use

yellow LED:

telephone on

red LED:

telephone is out of transmitter/receiver area

red LED blinking:

telephone is not registered, only emergency calls possible

clock on/off, also when monitor is off

2 sec:

auxiliary heating/auxiliary fan on/off

red fan symbol on:

heating/fan is programmed

red fan symbol blinking: heating/fan is active

MENU

(back) to system main menu

MONITOR BUTTON

turn:

selection of function

push:

activation of selected function

DISP

permanent display of selected audio source and clock

VOLUME BUTTON

push:

radio/cassette/CDC on/off (red LED indicates on)

turn:

volume control

SELECT

switch search function

radio mode:

manual — automatic with search level 2 — scan

cassette mode:

ffw/frw -- scan -- MSS

CD mode:

ffw/frw playback — next/previous track — scan — random play

TONE

select audio settings:

fader — balance — bass — treble

the settings can be changed with 2 sec:

reset audio settings

search up/down with default search function or search function selected

default radio mode:

automatic search with low sensitivity

automatic search with high sensitivity when push twice

default cassette mode:

ffw/frw when push twice

default CD mode:

next/previous track

1-6

radio mode:

select stored stations of respectiv band

2 sec:

store actual station

CD mode:

select disc

MSS

FΜ

select FM1 — FM2 — FMA, 2 sec: store 6 strongest stations in FMA

AM

select SW - LW - MW

RDS

RDS on/off, 2 sec: REG on/off

TP (TRAFFIC)

Traffic program on/off

on: only stations with traffic information are heard, interrupt cassette or CD during TA

00 (B 00

C)

select DOLBY B - DOLBY C - DOLBY OFF

MODE

select CASSETTE — CD — RADIO

select NOR (TAPE 1) - REV (TAPE 2)

eject cassette

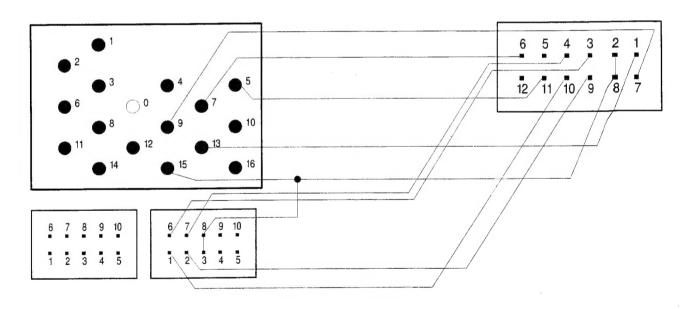
Connector pos.1006 of 22SY401 (Controlmodul)

| 6 | 5 | 4 | 3 | 2 | 1 | 1: EXT. 2: GND | | | | PERM.+ GND | (from Battery) |
|----|---|----|---|---|------------|-------------------|-------|-----------------|-----|-----------------------|------------------------------------|
| • | • | • | • | • | • | 3: NFCI | | (to Radiomodul) | | NFCLWLR - | (to Radiomodul) (to Radiomodul) |
| 12 | | 10 | 9 | 8 | ■ 7 | 4: NFC | _WL - | (to Radiomodul) | | NFCLWLR + IGN. KEY | (to nadiomoddi) |
| | | | | | | 6: I-BU | S | | 12: | IIIUM. CONTROL | (to Monitor) |

Connector NEC-Monitor

| | 1: | VIDEO RED | (from Videomodul) |
|-------|--------|-----------------|---------------------|
| 1 | 7 2: | VIDEO RED GND | (from Videomodul) |
| 2 | 8 3: | VIDEO GREEN | (from Videomodul) |
| _ | 4: | VIDEO GREEN GND | (from Videomodul) |
| 3 • • | 9 5: | VIDEO BLUE | (from Videomodul) |
| 4 . | 10 6: | VIDEO BLUE GND | (from Videomodul) |
| | 7: | VIDEOMODUL GND | (from Videomodul) |
| 5 • • | 8: | PERM.+ | (from Battery) |
| 6 • • | 12 9 | - 11: NC | |
| | 12: | IIIUM.CONTROL | (from Controlmodul) |

Adaptercable



DEFAULT SETTINGS (Delivery status)

Volume: 100 mV (FM, Δ F 0 22,5 KHz, fmod = 1 KHz) Tone: All tone controls in center position FM1, RDS on, REG off, TP off, SCAN off Cassette mode: Nor direction (TAPE 1), Dolby off, MSS off GAL = 2, SEEK = 1, TP-V = 0

SERVICE MODE

Enter: Switch radiomodul on and press TP within 8 s for about 8 s, set will automatically switch to radio mode.

Leave: Switch radiomodul off.

With the < and > keys you can scroll the different parameters:

MONITOR SHOWS

DESCRIPTION

EXAMPLE

Serial number

Serial number

R1003117

Software Version

Software version

05-94 64

GAL

GALA (SDVC)

2

With preset buttons 1...4 you can select the desired GALA volume

FREQUENCY NAME

Frequency PS

FM 89.3 HR3

FXX Q XX PI

Field strength Quality PI

F 15 Q 15 D363

Fieldstrength-range 0...15 (corresponds to 0...60 dBV on FM and AM), quality-range 0...15 (RDS always switched on).

With preset buttons 1 and 2 manual search is possible, with 3 and 4 automatic search.

You can also select the different wave bands with AM and FM keys.

DSP

DSP installed/not installed

1

Seek Level

Search levels

1

With preset buttons 1 and 2 you can select search level 1 (high sensitivity) or 2 (less sensitivity).

TP-Volume

TA volume

+1

With preset buttons 1 and 2 you can adjust the volume for traffic announcements. The selected volume is audible.

CHECKS

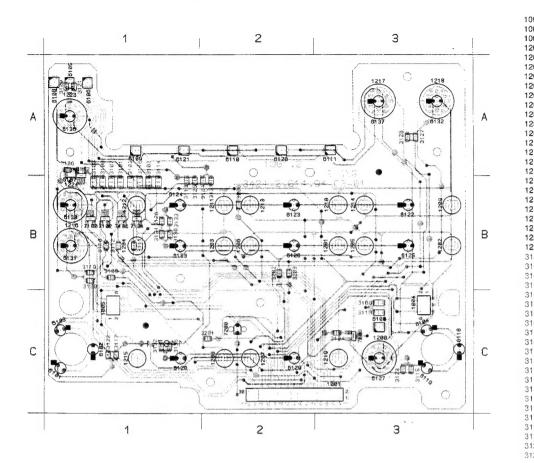
Check with $U_{\text{SUPPLY}} = 13.2 \text{ V}$ / Radiomodul 22DC785/23B connected

Voltage check

| Ign.key (R) on | MP 9200: MP 9207: MP 9208: MP 9209: MP 9210: MP 9211: MP 9213: MP 9215: MP 9309: MP 9317: MP 9324: MP 9327: MP 9328: | 4,5 - 5,1 V (DC) 8,1 - 8,9 V (DC) 11,5 - 13,0 V (DC) 0,6 - 5,1 V (DC) 4,9 - 5,1 V (DC) 12,0 - 13,2 V (DC) 4,0 - 13,0 V (DC) 11,0 - 13,0 V (DC) 1,9 - 2,8 V (DC) 2,8 - 3,5 V (DC) 4,5 - 5,1 V (DC) 10,0 - 13,0 V (DC) |
|---|--|---|
| High voltage check | MP 9328: | -0,1 - 0,5 V (DC) |
| Ign. key off, $U_{SUPPLY} = 25.0 \text{ V}$ | MP 9208: MP 9213: MP 9215: | -0,1 - 1,0 V (DC) -0,1 - 1,0 V (DC) 20,0 - 25,0 V (DC) |
| Dolby level check | | |
| Dolby test cassette, Dolby off | MP 9400: MP 9402: | 290 - 310 mV _{eff} (adjust 3533 if deviates) 290 - 310 mV _{eff} (adjust 3534 if deviates) |

Check measuring points

PWB FRONT LEFT HAND VERSION



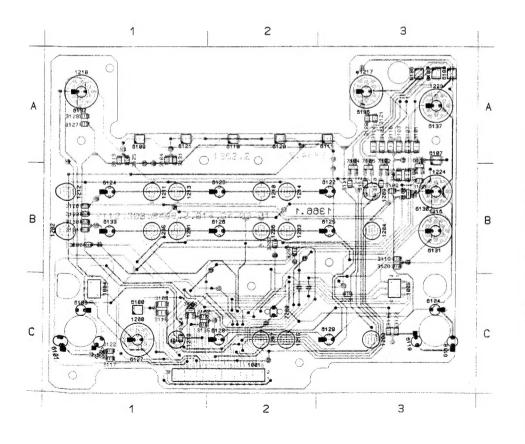
| 01 C 2 | 3122 C 1 |
|--|--|
| 101 C 2 104 C 1 | 3123 C 3 |
| 05 C 3 | 3124 C 1 |
| 00 C 1 | 3125 A 1 |
| 00001 | |
| 01 B 1 | 3126 B 1 |
| 02 B 1 | 3127 A 1 |
| 203 B 2 | 3128 A 1 |
| 204 B 3 | |
| | 3129 A 3 |
| 205 B 1 | 3130 B 1 |
| 206 B 2 | 3131 A 1 |
| 207 C 2 | 3132 C 1 |
| 000 0 2 | 3132 D 1 |
| 208 C 3 209 B 3 | 3133 B 1 3134 B 1 |
| | 3134 B 1 |
| 210 B 2 | 3135 C 1 |
| 11 B 1 | 3200 B 1 |
| 12 B 1 | 3201 C 3 |
| 112 B 1 113 B 1 | |
| Idel | 3202 B 2 |
| 214 B 2 | 3203 B 2 |
| 215 C 2 216 B 3 | 6100 C 1 |
| 216 B 3 | 6101 C 1 |
| 17 A 3 | 6102 C 1 |
| 117 / 0 | |
| | 6103 C 1 |
| 219 C 1 | 6104 C 3 |
| 223 A 3 | 6105 A 3 |
| 224 B 3 | 6106 A 3 |
| 100 B 3 | 6107 A 3 |
| 100 6 3 | |
| 01 A 3 | 6108 A 3 |
| 102 A B | 6109 A 1 |
| 03 A 3 - | 6110 A 2 |
| | 6111 A 3 |
| | |
| 0 0 0 | |
| 105 B 3 | 6112 B 3 |
| 105 B 3 106 B 3 | 6112 B 3 6118 C 3 |
| 106 B 3 107 A 3 | 6112 B 3 6118 C 3 6119 C 3 |
| 106 B 3 107 A 3 | 6112 B 3 6118 C 3 |
| 106 B 3 107 A 3 108 C 1 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 |
| 106 B 3 107 A 3 108 C 1 109 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 |
| 106 B 3 107 A 3 108 C 1 109 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 113 A 1 114 A 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 113 A 1 114 A 3 115 C 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 113 A 1 115 C 3 116 A 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 6128 C 2 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 113 A 1 115 C 3 116 A 3 117 C 1 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 6128 C 2 6129 C 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 110 B 3 111 B 3 112 B 3 113 A 1 115 C 3 116 A 3 117 C 1 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 6128 C 2 6129 C 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 111 B 3 112 B 3 113 A 1 114 A 3 115 C 3 117 C 1 118 C 1 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 6128 C 2 6129 C 3 6130 B 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 111 B 3 112 B 3 115 C 3 116 A 3 117 C 1 118 C 1 119 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 6128 C 2 6129 C 3 6130 B 3 6131 B 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 111 B 3 112 B 3 113 A 1 114 A 3 115 C 3 116 A 3 117 C 1 118 C 1 118 B 3 120 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6126 B 2 6127 C 1 6126 B 2 6127 C 1 6128 C 2 6130 B 3 6130 B 3 6131 B 3 |
| 106 B 3 107 A 3 108 C 1 109 B 3 111 B 3 112 B 3 113 A 1 114 A 3 115 C 3 116 A 3 117 C 1 118 C 1 118 B 3 120 B 3 | 6112 B 3 6118 C 3 6119 C 3 6120 A 2 6121 A 1 6122 B 3 6123 B 2 6124 B 1 6125 B 3 6126 B 2 6127 C 1 6128 C 2 6129 C 3 6130 B 3 6131 B 3 |

7106 B 3 7108 C 1 7200 C 2

6130 B 3

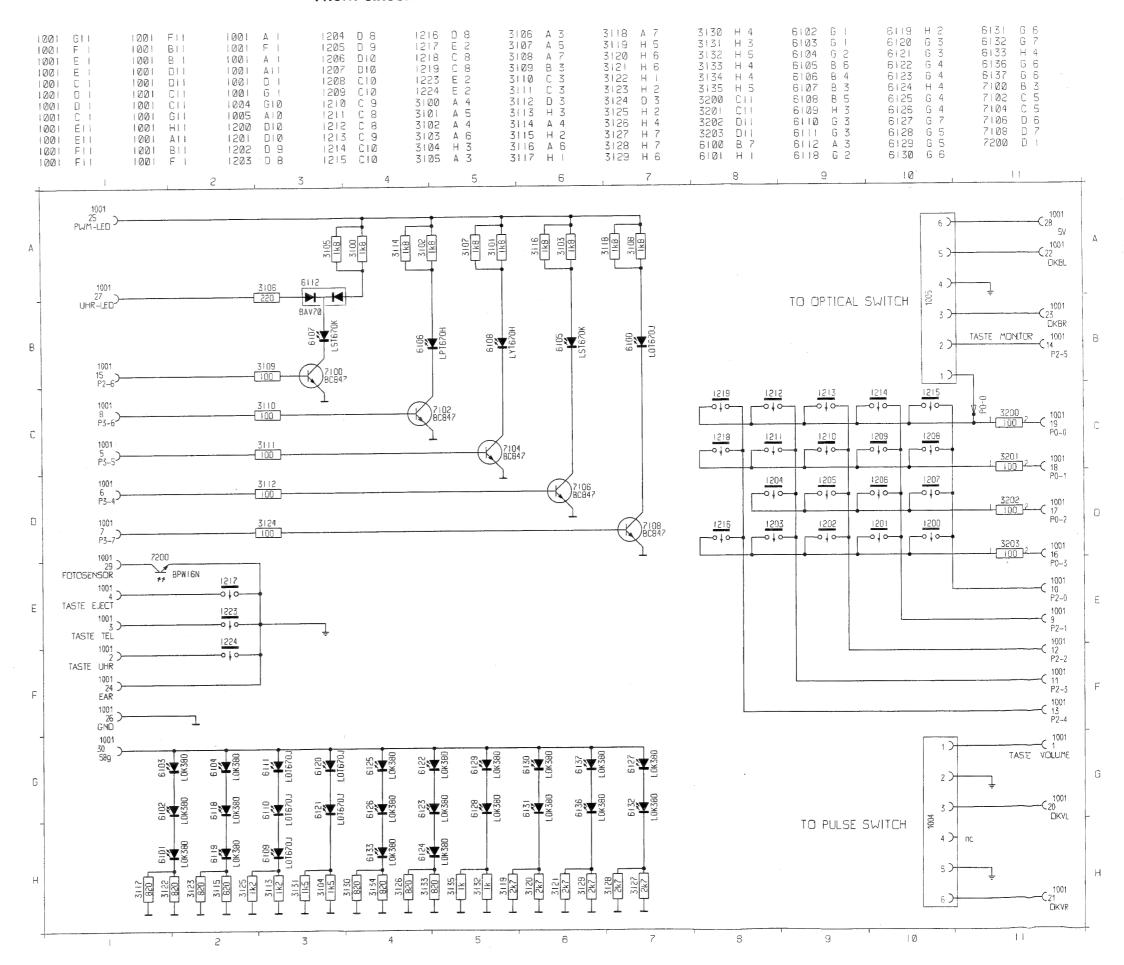
6130 B3 6131 B3 6132 A1 6133 B1 6136 A3 7100 B3 7102 B3

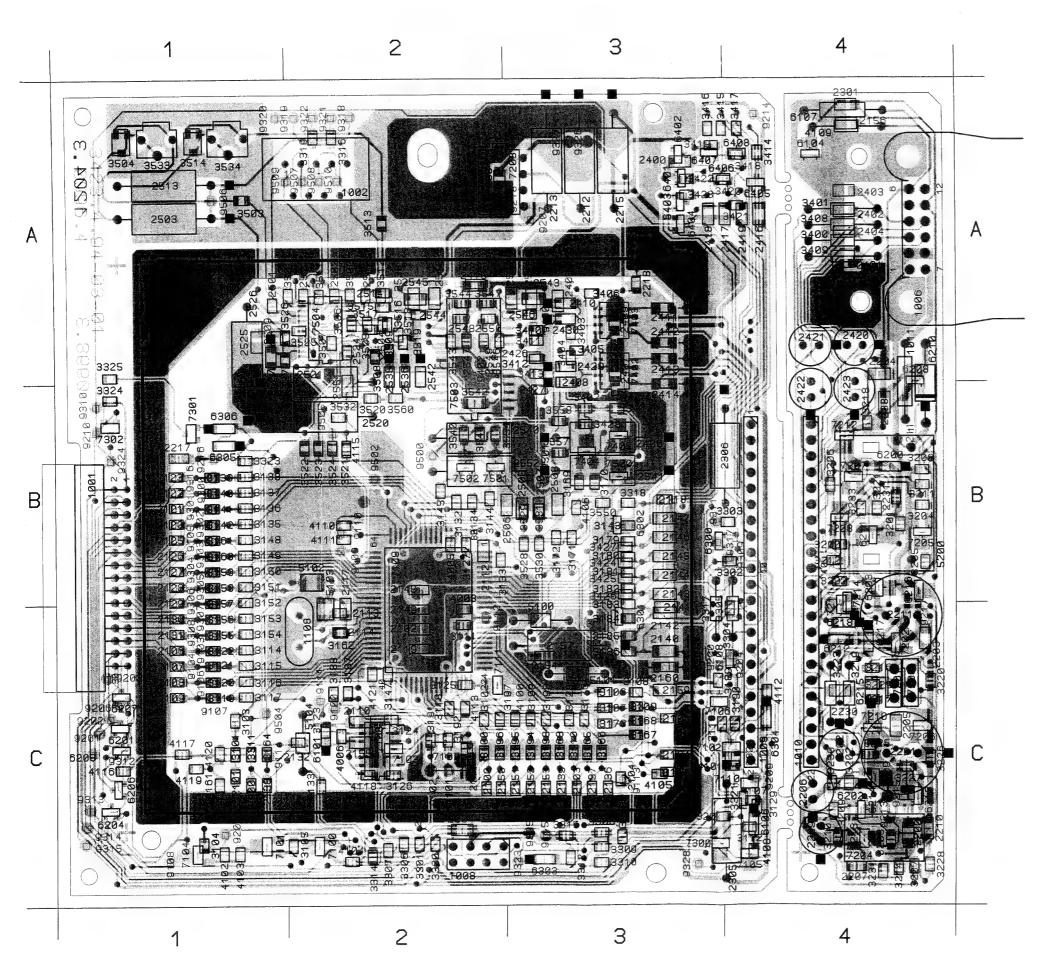
PWB FRONT RIGHT HAND VERSION



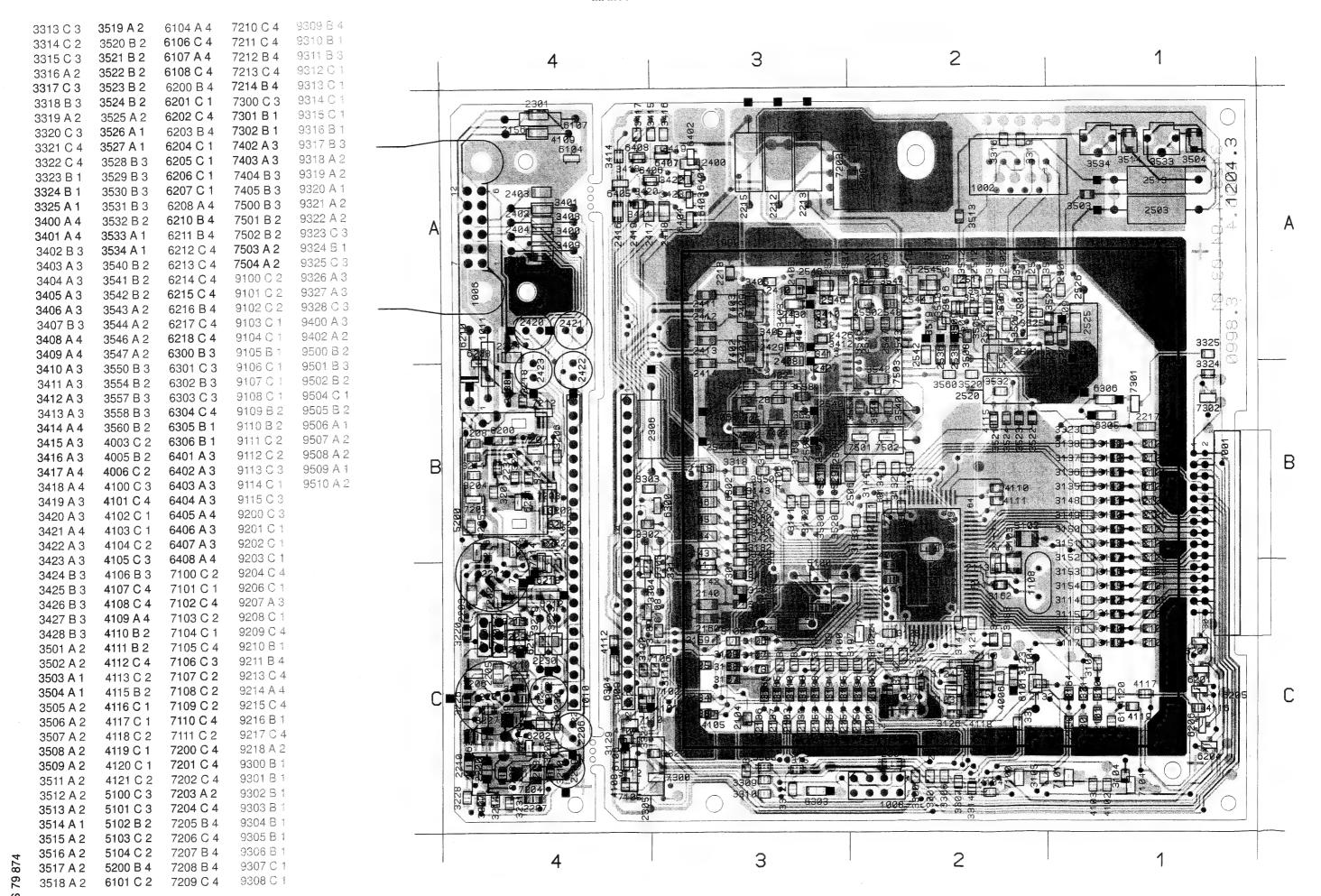
| 1004 C 1 1005 C 3 1200 C 1 1201 B 1 1202 B 1 1203 B 2 1204 B 3 1205 B 1 1206 B 2 1206 C 3 1206 B 3 1210 B 3 1210 B 3 1210 B 3 1211 B 1 1214 B 2 1215 C 2 1216 B 3 1217 A 3 1218 A 1 1214 B 3 1214 B 3 13101 A 3 13102 A 3 13103 A 3 13106 B 3 13106 B 3 13106 B 3 13106 B 3 13110 B 3 13110 B 3 13110 B 3 13111 B 3 | 3122 C 1 3123 C 3 3125 A 1 3126 B 1 3128 A 1 3129 A 3 3130 B 1 3131 A 1 3132 C 1 3133 C 1 3134 B 1 3135 C 1 3202 B 2 3203 B 2 3203 B 2 3203 C 1 6101 C 1 6103 C 1 6104 C 3 6105 A 3 6106 A 3 6107 A 3 6108 A 1 6111 A 3 6111 A 3 6111 B 3 6111 B 3 6112 B 3 6121 A 1 6122 B 2 |
|--|--|
| 3110 B 3 | 6120 A 2 6121 A 1 6122 B 3 |
| 3118 C 1 3119 B 3 | 6128 C 2 6129 C 3 |

FRONT CIRCUIT

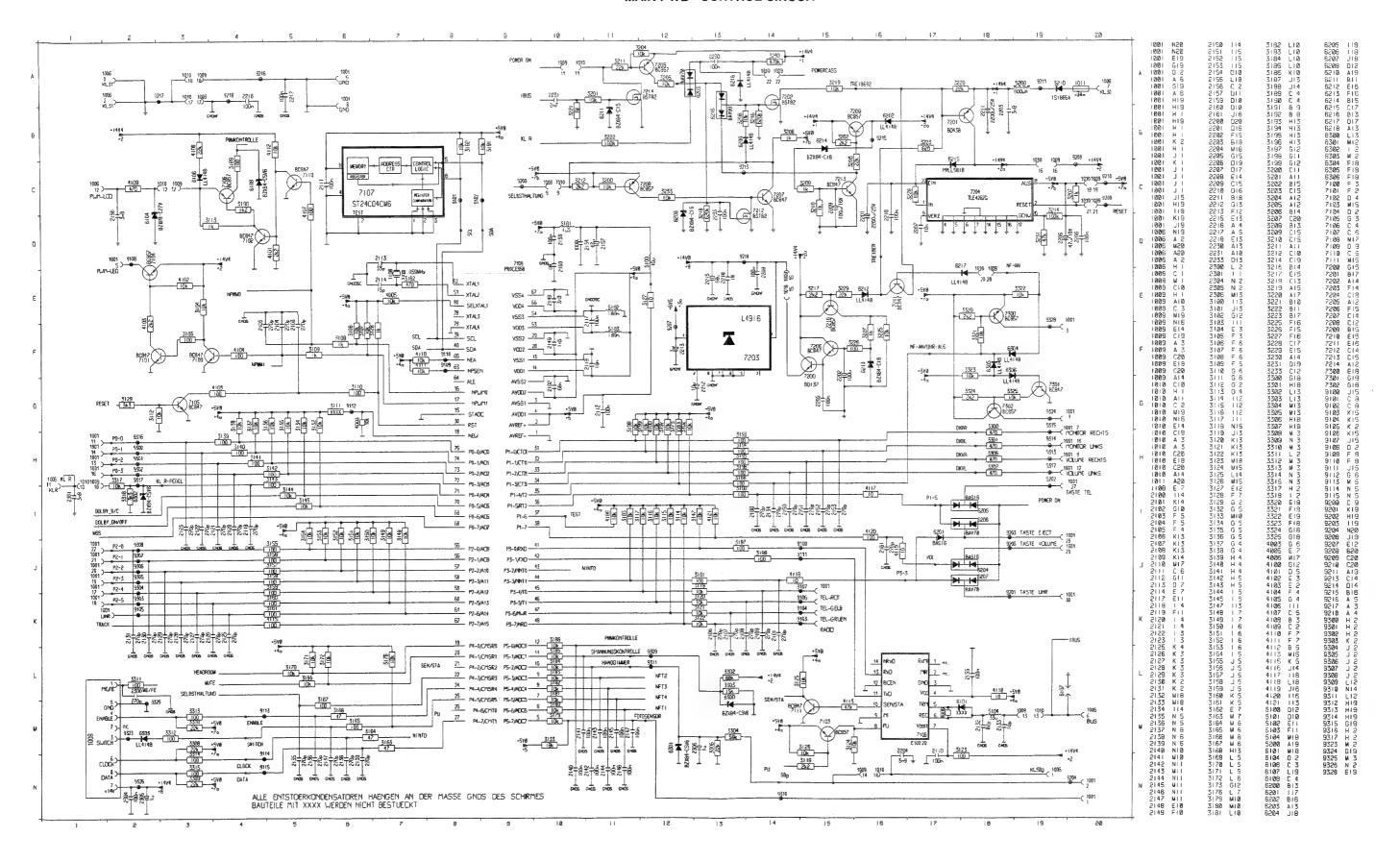




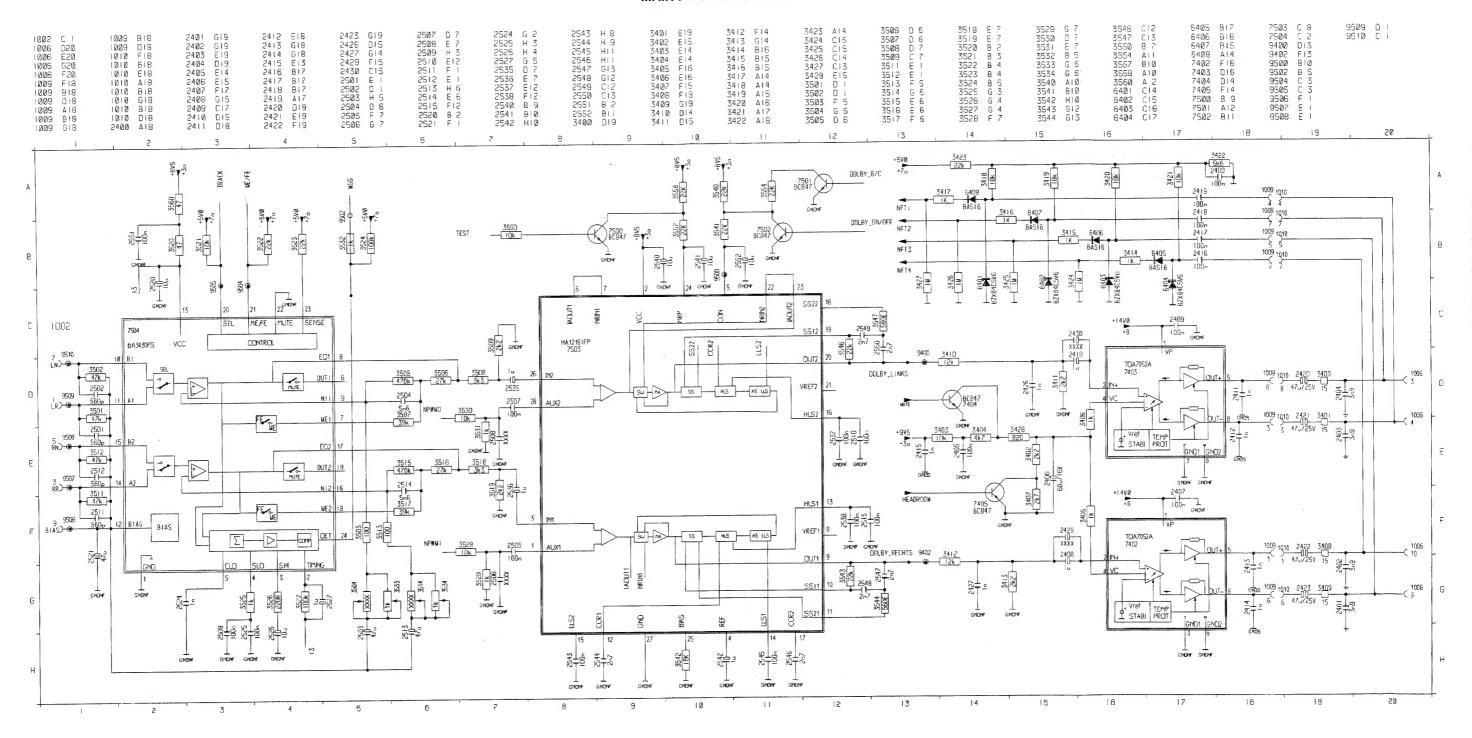
| 001 B 1 | 2153 C 3 | 2427 B 3 | 3118 C 2 | 3184 C 3 |
|----------------------|--------------------------|-----------------------------|----------------------|----------------------|
| 002 A 2 | 2154 C 3 | 2429 A 3 | 3119 C 1 | 3185 C 3 |
| 006 A 4 | 2155 C 2 | 2430 A 3 | 3120 C 1 | 3186 C 3 |
| 008 C 2 | 2156 A 4 | 2501 A 1 | 3121 C 1 | 3187 C 2 |
| 009 B 4 | 2157 C 3 | 2502 A 2 | 3122 C 1 | 3188 C 2 |
| 010 B 4 | 2159 C 3 | 2503 A 1 | 3123 C 2 | 3189 C 3 |
| 1011 B 4 | 2160 C 3 | 2504 A 2 | 3124 C 2 | 3190 C 4 |
| 108 C 2 | 2161 C 1 | 2505 B 3 | 3125 C 2 | 3191 C 2 |
| 1999 B 1 | 2200 C 4 | 2506 B 2 | 3126 C 2 | 3192 C 2 |
| 2100 C 2 | 2201 C 4 | 2507 B 3 | 3127 B 2 | 3193 C 3 |
| 2101 C 1 | 2202 C 4 | 2508 B 3 | 3128 C 3 | 3194 C 3 |
| 2102 C 2 | 2203 C 4 | 2509 A 1 | 3129 C 4 | 3195 C 3 |
| 2103 C 3 | 2204 A 4 | 2510 A 3 | 3132 B 2 | 3196 C 2 |
| 2104 C 3 | 2205 C 4 | 2511 A 2 | 3133 B 2 | 3197 C 2 |
| 2105 C 3 | 2206 C 4 2207 C 4 | 2512 A 2 2513 A 1 | 3134 B 2 | 3198 C 3 3199 C 3 |
| 2106 C 1 2107 C 1 | 2207 C 4 2208 A 2 | 2514 A 2 | 3135 B 1 3136 B 1 | 3199 C 3 3200 B 4 |
| 2107 C 1 2108 C 1 | 2200 A 2 2209 C 4 | 2514 A 2 | 3130 B 1 | 3200 B 4 3201 B 4 |
| 2100 C 1 | 2210 C 4 | 2520 B 2 | 3138 B 1 | 3201 B 4 |
| 2110 C 2 | 2211 C 4 | 2521 A 2 | 3139 B 1 | 3203 C 4 |
| 2111 C 2 | 2212 A 3 | 2524 A 2 | 3140 B 1 | 3204 B 4 |
| 2112 B 2 | 2213 A 3 | 2525 A 1 | 3141 B 1 | 3205 B 4 |
| 2113 C 2 | 2215 A 3 | 2526 A 1 | 3142 B 1 | 3206 B 4 |
| 2114 C 2 | 2216 A 2 | 2527 A 1 | 3143 B 3 | 3207 C 4 |
| 2117 C 2 | 2217 B 1 | 2535 A 2 | 3144 B 2 | 3208 B 4 |
| 2118 B 3 | 2218 A 3 | 2536 A 2 | 3145 B 2 | 3209 C 4 |
| 2119 C 2 | 2230 C 4 | 2537 A 3 | 3147 C 2 | 3210 C 4 |
| 2120 B 1 | 2231 B 4 | 2538 A 2 | 3148 B 1 | 3211 B 4 |
| 2121 B 1 | 2233 B 4 | 2540 B 2 2541 B 3 | 3149 B 1 | 3212 B 4 |
| 2122 B 1 2123 B 1 | 2300 C 1 2301 A 4 | 2541 B 3 | 3150 B 1 3151 B 1 | 3214 C 4 3216 C 4 |
| 2125 B 1 | 2304 C 2 | 2543 A 3 | 3152 B 1 | 3217 C 4 |
| 2126 B 1 | 2305 C 4 | 2544 A 2 | 3153 C 1 | 3218 B 4 |
| 2127 B 1 | 2306 B 3 | 2545 A 2 | 3154 C 1 | 3219 C 4 |
| 2128 B 1 | 2400 A 3 | 2546 A 3 | 3155 C 1 | 3220 C 4 |
| 2129 B 1 | 2401 A 4 | 2547 A 2 | 3156 C 1 | 3221 B 4 |
| 2130 C 1 | 2402 A 4 | 2548 A 2 | 3157 B 1 | 3222 B 4 |
| 2131 C 1 | 2403 A 4 | 2549 A 2 | 3158 B 1 | 3223 C 4 |
| 2132 C 2 | 2404 A 4 | 2550 A 2 | 3159 B 1 | 3225 C 4 |
| 2133 C 2 | 2405 A 3 | 2551 B 2 2552 B 2 | 3160 B 1 3161 B 1 | 3226 C 4 |
| 2134 C 3 2135 C 3 | 2406 B 3 2407 A 3 | 3100 C 2 | 3162 C 2 | 3227 C 4 3228 C 4 |
| 2136 C 3 | 2407 A 3 | 3101 C 1 | 3163 C 3 | 3229 C 4 |
| 2137 C 3 | 2409 A 3 | 3102 C 2 | 3164 C 1 | 3230 C 4 |
| 2138 C 1 | 2410 A 3 | 3103 C 1 | 3165 C 3 | 3231 C 4 |
| 2139 C 3 | 2411 A 3 | 3104 C 1 | 3166 C 3 | 3233 B 4 |
| 2140 C 3 | 2412 A 3 | 3105 C 2 | 3167 C 3 | 3300 C 2 |
| 2141 C 3 | 2413 A 3 | 3106 C 3 | 3168 C 3 | 3301 C 2 |
| 2142 C 3 | 2414 B 3 | 3107 C 3 | 3169 B 3 | 3302 B 4 |
| 2143 B 3 | 2415 A 2 | 3108 C 3 | 3170 B 3 | 3303 B 4 |
| 2144 B 3 | 2416 A 4 | 3109 C 3 | 3171 B 3 | 3304 C 4 |
| 2145 B 3 | 2417 A 4 2418 A 3 | 3110 C 3 | 3172 B 3 | 3305 C 4 |
| 2146 B 3 2147 B 3 | 2410 A 3 2419 A 4 | 3111 C 2 3112 C 4 | 3173 C 3 3176 C 3 | 3306 C 2 3307 C 2 |
| 2147 B 3 2148 B 2 | 2420 A 4 | 3112 C 4 | 3179 B 3 | 3307 C 2 3308 C 3 |
| 2140 D 2 | 2421 A 4 | 3114 C 1 | 3180 B 3 | 3309 C 3 |
| 2150 C 2 | 2422 B 4 | 3115 C 1 | 3181 B 3 | 3310 C 3 |
| 2151 C 3 | 2423 B 4 | 3116 C 1 | 3182 B 3 | 3311 C 1 |
| 2152 C 3 | 2426 A 3 | 3117 C 1 | 3183 C 3 | 3312 C 3 |
| | | | | |



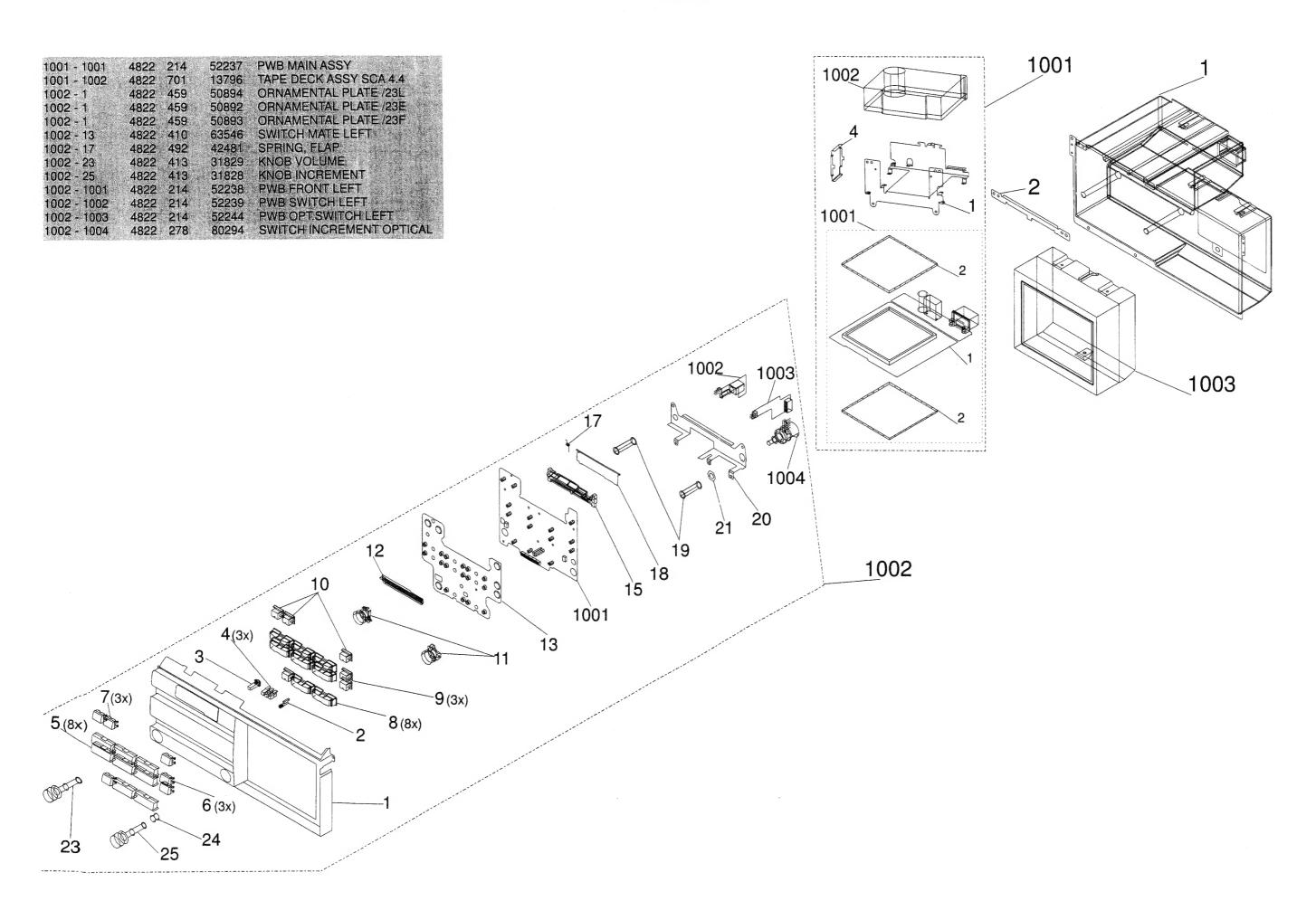
13



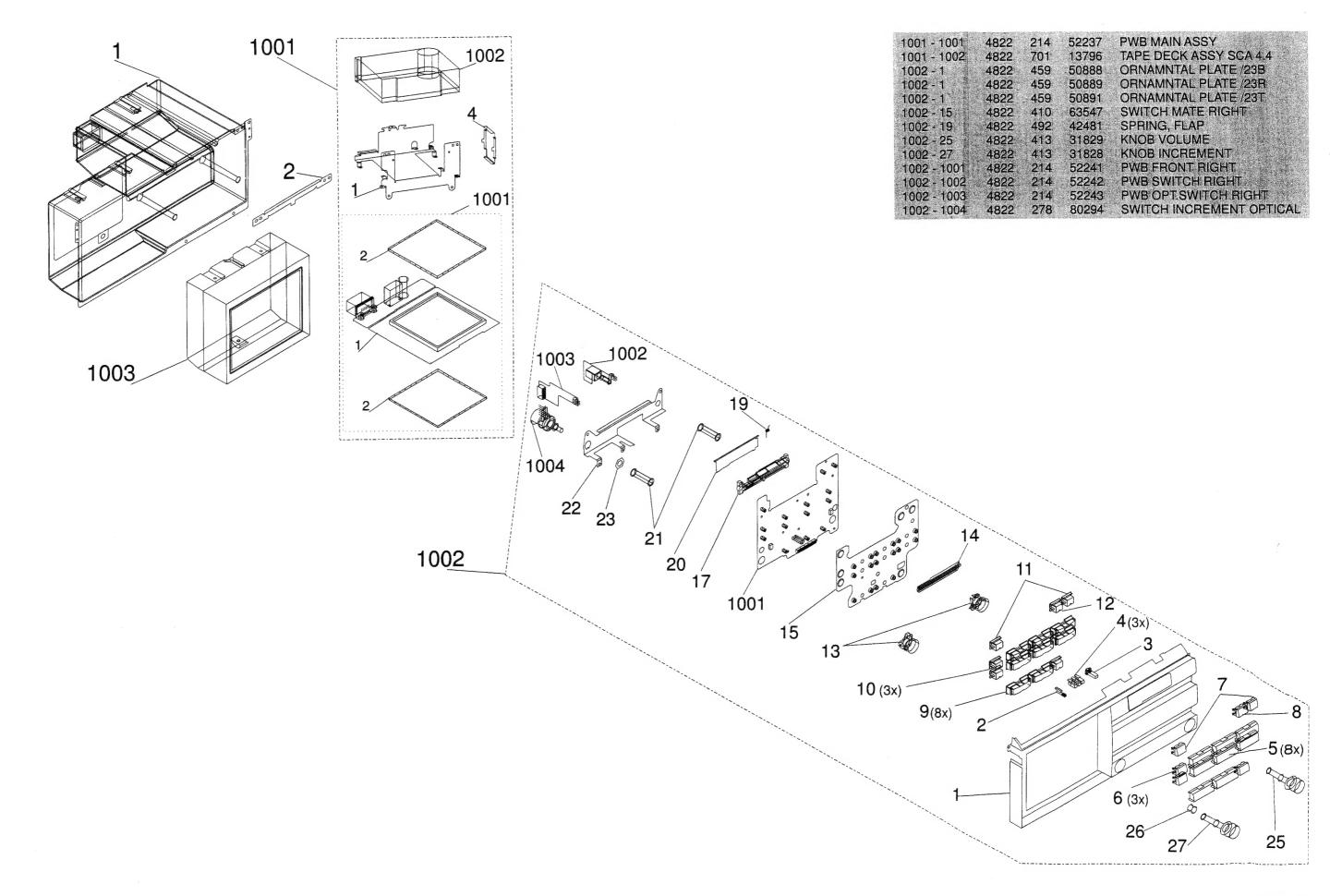
MAIN PWB - AF CIRCUIT



MECHANICAL PARTS LEFT HAND VERSION



MECHANICAL PARTS RIGHT HAND VERSION



| SCELLANEOUS | 2306 4822 124 20722 GAP.ELECTROLYT. 1UF 50% 63V 2400 4822 122 33496 GAP.CHIP 100NF 10%X7R 63V 2402 4822 122 32566 CAP.CHIP 3,9NF 10%X7R 63V 2403 4822 122 32566 GAP.CHIP 3,9NF 10%X7R 63V 2404 4822 122 32566 GAP.CHIP 3,9NF 10%X7R 63V 2404 4822 122 32566 GAP.CHIP 3,9NF 10%X7R 63V 2405 4822 122 33496 GAP.CHIP 100NF 10%X7R 63V 2405 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2406 5322 124 10512 CAP.ELECTROLYT. 68UF 20% 16V 2407 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2408 4822 124 11453 CAP.TANTAL 1UF 20% 16V 2409 4822 124 11453 CAP.TANTAL 1UF 20% 16V 2410 4822 122 33178 CAP.CHIP 100NF 10%X7R 63V 2410 4822 122 33178 CAP.CHIP 1NF 20%X7R 50V 2412 4822 122 33178 CAP.CHIP 1NF 20%X7R 50V 2413 4822 122 33178 CAP.CHIP 1NF 20%X7R 50V 2414 4822 122 33178 CAP.CHIP 1NF 20%X7R 50V 2415 4822 122 33178 CAP.CHIP 1NF 20%X7R 50V 2416 4822 122 33496 CAP.CHIP 1NF 20%X7R 50V 2417 4822 122 33496 CAP.CHIP 1NF 20%X7R 63V 2417 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2419 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2419 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2417 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2424 4822 122 33178 CAP.CHIP 100NF 10%X7R 63V 2424 4822 122 33178 CAP.CHIP 100NF 10%X7R 63V 2424 4822 124 40433 CAP.ELECTROLYT. 47UF 20% 25V 2424 4822 124 233178 CAP.CHIP 1NF 20%X7R 50V 2424 4822 124 233178 CAP.CHIP 1NF 20%X7R 50V 2427 4822 122 33178 CAP.CHIP 1NF 20%X7R 50V 2427 4822 122 33178 CAP.CHIP 560PF 10%X7R 50V 2427 4822 122 33178 CAP.CHIP 560PF 10%X7R 50V 2427 4 | 3161 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3162 4822 051 20479 RES.CHIP 470R00 5% 0,1W 3163 4822 051 20479 RES.CHIP 47R00 5% 0,1W 3165 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3166 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3167 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3168 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3189 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3189 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3190 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3193 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3193 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3193 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3194 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3195 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3202 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3203 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3203 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3203 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3204 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3211 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3211 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3214 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3214 4822 051 20102 RES.CHIP 2000 5% 0,1W 3224 4822 051 20104 RES.CHIP 100R00 5% 0,1W 3224 4822 051 20105 RES.CHIP 2000 5% 0,1W 3222 4822 051 20104 RES.CHIP 100R00 5% 0,1W 3222 | 3516 4822 051 20223 RES.CHIP 3K30 5% 0,1W 3519 4822 051 20222 RES.CHIP 2K20 5% 0,1W 3520 4822 051 20223 RES.CHIP 2K20 5% 0,1W 3522 4822 051 20223 RES.CHIP 2K20 5% 0,1W 3523 4822 051 20223 RES.CHIP 2K20 5% 0,1W 3524 4822 051 20223 RES.CHIP 2K20 5% 0,1W 3524 4822 051 20104 RES.CHIP 100K00 5% 0,1W 3524 4822 051 20102 RES.CHIP 100K00 5% 0,1W 3526 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3526 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3527 4822 051 20104 RES.CHIP 100K00 5% 0,1W 3529 4822 051 20102 RES.CHIP 100K00 5% 0,1W 3529 4822 051 20102 RES.CHIP 100K00 5% 0,1W 3531 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3531 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3531 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3534 4822 100 12211 POTM.TRM 1K DOLBYADJUST 3544 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3554 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3555 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3556 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3557 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3558 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3557 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3560 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3660 4822 051 20223 RES.CHIP 3K000 5% 0,1W 3660 4822 051 20223 RES.CHIP 3K000 5% 0,1W 3660 4822 051 20 | 7111 4822 130 42705 TRANSISTOR, CHIP BC847 7200 4822 130 40823 TRANSISTOR BD137 7201 4822 130 40995 TRANSISTOR BD438 7202 5322 130 60803 TRANSISTOR BST82 7203 4822 209 72227 INTEGR. CIRCUIT L4916 7204 4822 209 33883 INTEGR. CIRCUIT TLE4262G 7205 4822 130 61233 TRANSISTOR, CHIP BC847 7206 4822 130 42705 TRANSISTOR, CHIP BC847 7207 4822 130 61233 TRANSISTOR, CHIP BC847 7208 4822 130 61233 TRANSISTOR, CHIP BC857 7209 4822 130 61233 TRANSISTOR, CHIP BC857 7210 4822 130 61233 TRANSISTOR, CHIP BC857 7210 4822 130 61233 TRANSISTOR, CHIP BC857 7211 4822 130 61233 TRANSISTOR, CHIP BC857 7211 4822 130 61233 TRANSISTOR, CHIP BC857 7212 5322 130 60803 TRANSISTOR, CHIP BC847 7212 5322 130 60803 TRANSISTOR BST82 7213 4822 130 42705 TRANSISTOR, CHIP BC847 7214 5322 130 60803 TRANSISTOR, CHIP BC847 7214 5322 130 60803 TRANSISTOR, CHIP BC847 7214 5322 130 61233 TRANSISTOR, CHIP BC857 7301 4822 130 42705 TRANSISTOR, CHIP BC857 7301 4822 130 42705 TRANSISTOR, CHIP BC857 7301 4822 130 61233 TRANSISTOR, CHIP BC847 7302 4822 130 61233 TRANSISTOR, CHIP BC847 7405 5322 209 32344 INTEGR. CIRCUIT TDA7052AT/N2 7404 4822 130 42705 TRANSISTOR, CHIP BC847 7405 4822 130 42705 TRANSISTOR, CHIP BC847 7405 4822 130 42705 TRANSISTOR, CHIP BC847 7504 4822 209 33636 INTEGR. CIRCUIT HA12161FP 7504 4822 209 33684 INTEGR. CIRCUIT HA12161FP 7504 4822 209 33686 INTEGR. CIRCUIT BA3430FS |
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| 2126 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2127 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2128 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2129 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2130 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2131 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2132 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2133 5322 122 33216 CAPCHIP 270PF 5%NP0 63V 2134 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2135 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2136 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2137 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2138 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2139 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2139 4822 122 33216 CAPCHIP 270PF 5%NP0 50V 2140 4822 122 33496 CAPCHIP 270PF 5%NP0 50V 2141 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2142 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2144 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2145 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2146 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2146 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2145 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2146 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2145 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2146 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2150 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2151 4822 122 33496 CAPCHIP 270PF 5%NP0 50V 2153 4822 122 33496 CAPCHIP 270PF 5%NP0 50V 2154 4822 122 33496 CAPCHIP 270PF 5%NP0 50V 2155 4822 122 33496 CAPCHIP 270PF 5%NP0 50V 2151 4822 122 33496 CAPCHIP 270PF 5%NP0 50V 2153 4822 122 33496 CAPCHIP 270PF 5%N | 2504 4822 122 32646 CAPCERAMIC 5,6NF 10%X7R 50V 2505 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2509 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2510 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2510 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2511 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2511 4822 122 33173 CAPCHIP 560PF 10%X7R 50V 2513 4822 122 33646 CAPCHIP 560PF 10%X7R 50V 2514 4822 122 32646 CAPCHIP 560PF 10%X7R 50V 2514 4822 122 33646 CAPCHIP 560PF 10%X7R 50V 2514 4822 122 33496 CAPCHIP 100NF 10%X7R 50V 2514 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2520 4822 124 20697 CAPELECTROLYT. 47UF 5% 10V 2524 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2520 4822 124 20697 CAPELECTROLYT. 47UF 5% 25V 2521 4822 122 33496 CAPCHIP 1NF 20%X7R 50V 2524 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2526 4822 124 20697 CAPELECTROLYT. 47UF 5% 10V 2524 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2525 4822 124 14453 CAPTANTAL 1UF 20% 16V 2535 4822 124 14453 CAPTANTAL 1UF 20% 16V 2535 4822 124 1453 CAPTANTAL 1UF 20% 16V 2536 4822 124 3496 CAPCHIP 100NF 10%X7R 63V 2537 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2537 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2534 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2544 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2554 4822 122 33496 CAPCHIP 100NF 10%X7R 63V 2544 4822 122 33697 CAPCERAMIC 2.7NF 10%X7R 50V 2544 4822 122 32627 CAPCERAMIC 2.7NF 10%X7R 50V 2548 4822 122 32627 CAPCERAMIC 2.7NF 10%X7R 50V 2554 4822 122 36697 CAPCERAMIC 2.7NF 10%X7R 50V 2554 | 3412 4822 051 20123 RES.CHIP 12K00 5% 0,1W 3413 4822 051 20222 RES.CHIP 2K20 5% 0,1W 3414 4822 051 20102 RES.CHIP 1K00 5% 0,1W | 4105 4822 051 20101 RES.CHIP | 3100 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3101 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3102 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3103 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3103 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3104 4822 117 11139 RES.METAL FILM 1K5 1% 0,1 W 3105 4822 051 20221 RES.CHIP 1K80 2% 0,25W 3106 4822 051 20221 RES.CHIP 220R00 5% 0,1 W 3107 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3108 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3108 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3109 4822 051 10182 RES.CHIP 100R00 5% 0,1 W 3110 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3111 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3111 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3113 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3114 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3115 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3116 4822 051 20101 RES.CHIP 100R00 5% 0,1 W 3117 4822 051 20821 RES.CHIP 1K80 2% 0,25W 3115 4822 051 20821 RES.CHIP 1K80 2% 0,25W 3115 4822 051 20821 RES.CHIP 1K80 2% 0,25W 3116 4822 051 10182 RES.CHIP 1K80 2% 0,25W 3117 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3125 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3126 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3127 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3128 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3129 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3120 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3121 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3122 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3123 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3124 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3125 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3120 4822 051 20821 RES.CHIP 820R00 5% 0,1 W 3120 4822 051 20821 RES.CHIP 820R00 5% 0,1 W |
| 2204 4822 122 32566 CAP.CHIP 3,9NF 10%X7R 63V 2205 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2206 4822 122 33177 CAP.CHIP 10NF 20%X7R 50V 2208 4822 122 33496 CAP.CHIP 10NF 20%X7R 63V 2209 4822 124 23255 CAP.ELECTROLYT. 100NF 10%X7R 63V 2210 4822 124 30407 CAP.ELECTROLYT. 100NF 10%X7R 63V 2211 4822 124 20697 CAP.ELECTROLYT. 10UF 50% 25V 2213 4822 124 2072 CAP.ELECTROLYT. 10UF 50% 25V 2213 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V 2216 4822 122 33496 CAP.CHIP 100NF 10%X7R 63V | 3109 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3110 4822 051 20102 RES.CHIP 100R00 5% 0,1W 3113 4822 051 2022 RES.CHIP 100R00 5% 0,1W 3118 4822 051 20222 RES.CHIP 2K20 5% 0,1W 3123 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3128 4822 051 20109 RES.CHIP 100R00 5% 0,1W 3128 4822 051 20102 RES.CHIP 10R00 5% 0,1W 3129 4822 051 2032 RES.CHIP 1K00 5% 0,1W 3133 4822 051 20332 RES.CHIP 1K00 5% 0,1W 3139 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3130 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3140 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3141 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3142 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3155 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3156 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3157 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3158 4822 051 20101 RES.CHIP 100R00 5% 0,1W 3159 4822 051 20101 RES.CHIP 100R00 5% 0,1W | 3415 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3416 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3417 4822 051 20102 RES.CHIP 1K00 5% 0,1W 3423 4822 051 20223 RES.CHIP 2K00 5% 0,1W 3424 4822 051 20105 RES.CHIP 1M00 5% 0,1W 3425 4822 051 20105 RES.CHIP 1M00 5% 0,1W 3426 4822 051 20105 RES.CHIP 1M00 5% 0,1W 3427 4822 051 20105 RES.CHIP 1M00 5% 0,1W 3428 4822 051 20105 RES.CHIP 1M00 5% 0,1W 3428 4822 051 20105 RES.CHIP 1M00 5% 0,1W 3428 4822 051 20107 RES.CHIP 1K00 5% 0,1W 3428 4822 051 20107 RES.CHIP 1K00 5% 0,1W 3501 4822 051 20473 RES.CHIP 47K00 5% 0,1W 3503 4822 051 20474 RES.CHIP 47K00 5% 0,1W 3503 4822 051 2022 RES.CHIP 27K00 5% 0,1W 3504 4822 051 2032 RES.CHIP 3508 4822 051 2032 RES.CHIP 3508 4822 051 2032 RES.CHIP 3508 4822 051 2032 RES.CHIP 3509 4822 051 2032 RES.CHIP 3509 4822 051 2032 RES.CHIP 3511 4822 051 20473 RES.CHIP 3K30 5% 0,1W 3511 4822 051 20473 RES.CHIP 47K00 5% 0,1W 3512 4822 051 20473 RES.CHIP 3K30 5% 0,1W 3513 4822 051 20473 RES.CHIP 47K00 5% 0,1W 3513 4822 051 20473 RES.CHIP 3K30 5% 0,1W 3513 4822 051 20473 RES.CHIP 47K00 5% 0,1W | 6402 4822 130 80125 DIODE,REFERENCE BZX84-C5V6 6404 4822 130 80125 DIODE,REFERENCE BZX84-C5V6 6404 4822 130 80125 DIODE,REFERENCE BZX84-C5V6 6405 5322 130 31928 DIODE,CHIP BAS16 6406 5322 130 31928 DIODE,CHIP BAS16 6407 5322 130 31928 DIODE,CHIP BAS16 6408 5322 130 31928 DIODE,CHIP BAS16 6408 5322 130 31928 DIODE,CHIP BAS16 TRANSISTORS AND IC'S 7100 4822 130 42705 TRANSISTOR,CHIP BC847 7101 4822 130 42705 TRANSISTOR,CHIP BC847 7102 4822 130 42705 TRANSISTOR,CHIP BC847 7103 4822 130 61233 TRANSISTOR,CHIP BC857 7104 4822 130 61233 TRANSISTOR,CHIP BC857 7105 4822 130 61233 TRANSISTOR,CHIP BC857 7106 4822 130 61233 TRANSISTOR,CHIP BC857 7107 4822 130 61233 TRANSISTOR,CHIP BC857 7107 4822 209 52603 I.C.E-PROM CAT24C08JI 7108 4822 209 33824 INTEGR.CIRCUIT E100.20 7109 4822 209 33882 MICROPROCESSOR P83CE558EFB+RC2 7110 4822 130 42705 TRANSISTOR,CHIP BC847 | 7104 4822 130 42705 TRANSISTOR, CHIP BC847 7106 4822 130 42705 TRANSISTOR, CHIP BC847 7108 4822 130 42705 TRANSISTOR, CHIP BC847 7200 4822 130 41739 TRANSIST, PHOTO BPW16N |